

AONT-100

GPON Single Family Unit Optical Network Terminal

Feature Summary

- ◆ Built-in Triplexer for Video RF-Overlay
- ◆ Indoor wall or table mount
- ◆ Four 10/100Base-T Ethernet RJ-45 Ports
- ◆ 2 analog 2-wire RJ-11 (POTS) VoIP SIP voice ports, G.711 codec, 5 REN per port
- ◆ CLASS 5 Voice Services
- ◆ Lifeline POTS when used with the AONT-100-UPS
- ◆ Built-in L2 switch, 256 MAC addresses and 16 VLAN VIDs
- ◆ MAC address limiting
- ◆ Customer VLAN tagged (802.1p), priority tagged and untagged frames
- ◆ ToS/DSCP to 802.1p mapping
- ◆ IGMPv1/v2/v3 snooping and filtering
- ◆ Ethernet UNI output shaping, and upstream scheduling
- ◆ GPON "dying gasp" power loss indication

Applications

The AONT-100 has been optimized for single family homes or apartments and small home offices (SOHO) that require an RF-overlay for video delivery.

High Bandwidth GPON

The AONT-100 is fully FSAN (ITU-T G.984) compliant with a 1.244 Gb/s upstream and 2.488 Gb/s downstream, Class B+ GPON system. In addition it supports downstream AES (128-bit key) and downstream and upstream FEC RS(255,239).

Ethernet Quality of Service

The AONT-100 has extensive Ethernet QoS features, including 802.3x flow control, DSCP to 802.1p mapping, upstream congestion control, and downstream traffic scheduling for premium or time sensitive content. Intelligent and robust buffer and queue management for Ethernet traffic, with individual prioritizable queues, ensures that tiered residential service offerings based on different bit-rates and QoS can be supported.

Security

The AONT-100 comes with the latest security features, including MAC address spoofing protection, MAC/IP address port binding, MAC/IP address limiting on a per port basis, local port-to-port switching blocking option, 802.1X MAC-based authentication, per-port Access Control List (ACL) based on port, MAC address and Ether-type, and DOS prevention.

Flexible Management

The AONT-100 is managed from the AOLT-4000 OLT over the GPON's OMCI channel. The AOLT in turn is managed with either Alphion's Element Management System (AEMS) that provides configuration, profile based provisioning, event and fault management and performance monitoring for the AONT, or a 3rd party EMS using SNMP or a legacy NMS.



SPECIFICATIONS



Optical Interface

Standard	GPON; Fully ITU-T G.984 compliant
Link Budget	28 dB (Class B+)
Wavelength	Upstream: 1310 nm; Downstream: 1490 nm
Line Rate	Upstream: 1.244 Gb/s; Downstream: 2.488 Gb/s
Output power	+0.5 to +5.0 dBm
Sensitivity*	-27 dBm (at 10 dB extinction ratio)
Overload	-8 dBm
Distance	up to 60 km (depending on split ratio and reach extension)
Connector	SC/APC (required for RF-Overlay)

GPON TC Layer

FEC & AES	AES (128-bit key) and FEC RS (255,239)
DBA	Yes
No. GEM Ports	Number is software dependent
No. TCONT/AllocID	Number is software dependent

Video Interfaces

Type	Coax F-Connector
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Data Interfaces

Type	Four 10/100Base-T RJ-45 Ethernet interfaces
Rate & Duplex	Auto-negotiation
MDI/MDIX	Auto-sensing
VLAN Support	802.1Q with VLAN tag manipulation
MAC & VLAN Table	256 MAC Address and 16 VLAN IDs
Priority	VLAN 802.1p, VID=0 802.1p, ToS/DSCP to 802.1p mapping

*Measured at BER better than 1×10^{-10} , factoring in aging and worst case PMD.

Voice Interfaces

Type	Two FXS POTS RJ-11 interfaces, 5 REN, Balanced Ring
VoIP Protocol	SIP (Session Initiation Protocol) (RFC3261) and SDP (RFC2327)
Codec	Multiple codec support
DTMF	RFC2833 or In-band
Tones and Ring	Configurable
Dial Plan	Configurable
FAX and Modem	G.711 for FAX/mode in TTY or T.38 FAX
CLASS 5 Services	Yes, Various
Conditioning	Echo Cancellation, Voice Activity Detection, Comfort Noise Generalization

Environmental

Temperature	-5 to +50°C
Humidity	5% to 95% (non-condensing)

Physical

W x D x H	13"x10"x4" / 330 mm x 254 mm x 102 mm
Powering	+12 VDC
Mounting	Wall and table mounting

Compliance

EMC	EN55022, CISPR-22 Class A, ETSI 300 386, TEC SD/EMI-01/02 Sept. 2001
Safety	EN60950, UL60950, CE, Optical IEC-60825-1 Class B Laser safety per G.664
Environmental	QM-333 'B2' Category
Transient	EN/IEC61000-4-4 (2001) Level 2
Radiant RF Immunity	EN/IEC61000-4-3 (2002) level 2
Conductive Immunity	EN/IEC61000-4-6 (2001) level 2
Surge	EN/IEC61000-4-5 (2001) 0.5KV (line) and 1.5KV (earth)
ESD	EN/IEC61000-4-2 (2001) Contact level 2 and air discharge level 3

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